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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,441	10/31/2003	Christopher A. Sermarini	84,804	3255

7590                  12/29/2004

COASTAL SYSTEMS STATION  
DAHLGREN DIVISION  
NAVAL SURFACE WARFARE CENTER  
6703 W HWY 98 CODE CP2L  
PANAMA CITY, FL 32407-7001

EXAMINER

PIHULIC, DANIEL T

ART UNIT

PAPER NUMBER

3662

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Supplemental  
Notice of Allowability**

Application No.

10/699,441

Examiner

Daniel Pihulic

Applicant(s)

SERMARINI, CHRISTOPHER A.

Art Unit

3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to \_\_\_\_\_.
2.  The allowed claim(s) is/are 1-15.
3.  The drawings filed on 31 October 2003 are accepted by the Examiner.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None
 of the:
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6.  CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

1. The following is an examiner's statement of reasons for allowance:

The prior art does not disclose a method of detecting manatee vocalizations, comprising the steps of: forming a plurality of overlapping time-windowed portions of said filtered data; estimating, for each of said plurality of time-windowed portions, a power spectrum for in said frequency range of interest; normalizing, for each of said plurality of overlapping time-windowed portions, each said power spectrum for each of said frequency bins thereof using an average of power spectrums calculated over a plurality of said frequency bins, wherein a normalized spectrum value is defined for each of said frequency bins and wherein each said normalized spectrum value associated with broadband noise has a value that is overlapping frequency bins less than each said normalized spectrum value associated with narrowband tones; providing a lowest resonant frequency of interest associated with manatee vocalizations, wherein said lowest resonant frequency has harmonics associated therewith; filtering out, for each of said plurality of overlapping time-windowed portions, normalized spectrum values indicative of narrowband tones that occur windows of frequency bins encompassing frequencies lower and higher than each of said lowest resonant frequency and said harmonics thereof and with a specified degree variance with respect to frequency separation therebetween, wherein a resulting number of said normalized spectrum values indicative of narrowband tones are maintained; assigning, for each of said plurality of overlapping time-windowed portions, each said normalized spectrum value from said resulting number thereof to a frequency-based harmonic set, each of which is defined by a basefrequency and resonances thereof; and applying for each of said plurality of overlapping time-windowed portions, a scoring routine that uses each said normalized spectrum value in each said harmonic set wherein a manatee vocalization is indicated when a threshold score achieved across at least a portion of said plurality of applying, for each of overlapping time-windowed portions as recited in claim 1.

The prior art also does not disclose a system for detecting manatee vocalizations comprises: means for forming a plurality of overlapping time windowed portions of said

filtered data; means for estimating, for each of said plurality of overlapping time-windowed portions, a power spectrum for frequency bins in said frequency range of interest; means for normalizing, for each of said plurality of overlapping for each of time-windowed portions, each said power spectrum said frequency bins thereof using an average of power spectrums calculated over a plurality of said frequency bins, wherein a normalized spectrum value is defined for each said frequency bins and wherein each said normalized spectrum value associated with broadband noise has a value that is less than each said normalized spectrum value associated with narrowband tones; means for filtering out, for each of said plurality of overlapping time-windowed portions, normalized spectrum values indicative of narrowband tones that occur in windows of frequency bins encompassing frequencies lower and higher than each of a lowest resonant frequency of interest associated with manatee vocalizations and harmonics thereof and with a specified degree of variance with respect to frequency separation therebetween, wherein a resulting number of said normalized spectrum values indicative of narrowband tones are maintained; means for assigning, for each of said plurality of overlapping time-windowed portions, each said normalized spectrum value from said resulting number thereof to a frequency-based harmonic set defined by a base frequency and resonances thereof; and means for applying, for each of said plurality of overlapping time-windowed portions, a scoring routine that uses each said normalized spectrum value in each said harmonic set wherein a manatee vocalization is indicated when a threshold score is achieved across at least a portion of said plurality of overlapping time-windowed portions as recited in claim 9.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Pihulic whose telephone number is 703-306-4168. The examiner can normally be reached on Monday through Thursday from 6 a.m. to 4 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza, can be reached on 703-306-4171.

The fax phone numbers for the organization where this application or proceeding is assigned are:

703-872-9306 for official responses, and

703-746-3847 for unofficial communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Daniel Pihulic  
Primary Examiner  
Art Unit 3662